

Title (en)  
SEMICONDUCTOR MEMORY DEVICE

Publication  
**EP 0294840 A3 19891129 (EN)**

Application  
**EP 88109300 A 19880610**

Priority  
JP 14636687 A 19870612

Abstract (en)  
[origin: EP0294840A2] A dynamic memory device of one-transistor memory cell type is disclosed. A thick insulating layer (50) is formed on the transistor (34,56,22) and an aperture (51) is provided in the thick insulating layer to reach source (34) or drain region (22) of the transistor. A MOS type storage capacitor is formed within the aperture (51) and above the upper surface (50 min ) of the insulating layer such that the capacitance of the capacitor within the aperture becomes larger than the capacitance of the capacitor above the upper surface of the insulating layer.

IPC 1-7  
**G11C 11/40**; **H01L 27/10**

IPC 8 full level  
**H01L 27/04** (2006.01); **G11C 11/404** (2006.01); **H01L 21/822** (2006.01); **H01L 21/8242** (2006.01); **H01L 27/10** (2006.01); **H01L 27/108** (2006.01); **H01L 29/94** (2006.01)

CPC (source: EP US)  
**G11C 11/404** (2013.01 - EP US); **H01L 29/945** (2013.01 - EP US); **H10B 12/033** (2023.02 - EP US); **H10B 12/31** (2023.02 - EP US)

Citation (search report)  
• [A] DE 3543937 A1 19860612 - TOSHIBA KAWASAKI KK [JP]  
• [A] EP 0194682 A2 19860917 - TOSHIBA KK [JP]  
• [A] EP 0046011 A2 19820217 - FUJITSU LTD [JP]  
• [Y] PATENT ABSTRACTS OF JAPAN. vol. 11, no. 110 (E-496)(2557) 7 April 1987; & JP-A-61 258 467 (HITACHI LTD.) 15-11-1986  
• [Y] PATENT ABSTRACTS OF JAPAN. vol. 10, no. 79 (E-391)(2136) 28 March 1986; & JP-A-60 225 461 (OKI DENKI KOGYO K.K.) 09-11-1985

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**EP 88109300 A 19880610**; DE 3879766 T 19880610; JP 14636687 A 19870612; US 20587188 A 19880613